

**GROUND WATER DISCHARGE PERMIT RENEWAL, DP-1234**  
**DEMING JIGGING PLANT**  
**Approval Date**

**I. INTRODUCTION**

The New Mexico Environment Department (NMED) issues this Discharge Permit Renewal, DP-1234, to American Minerals Inc. (AMI) pursuant to the New Mexico Water Quality Act (WQA), NMSA 1978 §§ 74-6-1 through 74-6-17 (1993), and the New Mexico Water Quality Control Commission (WQCC) Regulations, 20.6.2 NMAC.

NMED's purpose in issuing this Discharge Permit, and in imposing the requirements and conditions specified herein, is to control discharges of water contaminants from the AMI Deming Jigging Plant Site into ground and surface water, so as to protect ground and surface water for present and potential future use as domestic and agricultural water supply and other uses and to protect public health. In issuing this Discharge Permit, NMED has determined that the requirements of 20.6.2.3109.C NMAC have been met.

**Background**

This Discharge Permit Renewal is for post-closure monitoring and maintenance of the former AMI Deming Jigging Plant Site (AMI Site). The former AMI Site covers approximately 20 acres and included process buildings, an on-site tailings storage area, concrete settling chambers and two unlined settling ponds. The AMI Site operated from 1993 to 2003. The AMI Site operations included crushing, screening, and jigging of manganese ore and manganese ore tailings. Tailings from the jigging operation and concentrated ore were conveyed to concrete settling chambers as a slurry. Process wastewater decanted from the settling chambers was discharged to two unlined settling ponds (Mill Pond 1 and Mill Pond 2) in series and then returned to the processing circuit. Dewatered tailings were stored on-site in piles for additional processing or for transport off-site. The AMI Site was reclaimed in the Fall of 2005 in accordance with a closure plan amendment request dated September 30, 2004.

**Location of Discharge**

The AMI Site is located approximately one mile northeast of Deming in Section 25, T23N, R9W in Luna County.

**Facility Description**

Reclamation of the manganese tailing piles and settling ponds was completed in the Fall of 2005. The site has been graded such that storm water flows to the northwest side of the site away from the Mimbres River and the reclaimed settling pond locations on the southwest side of the site. The tailings within the closed impoundments contain elevated levels of metals including manganese, cadmium, lead and iron and are located in close proximity to the Mimbres River.

This Discharge Permit includes requirements for post-closure monitoring and maintenance of the reclamation areas.

### **Characteristics of Ground Water**

Ground water beneath the site is at a depth of approximately 72 to 75 feet and has a total dissolved solids concentration of 258 milligrams per liter. Regional ground water flow direction is to the southeast.

### **General**

The Discharge Plan includes information and materials submitted as part of the original Discharge Permit approved on March 23, 1999, amended on September 30, 2004, and renewed and modified on September 19, 2008. Discharges shall be managed in accordance with the Discharge Plan as conditioned by this Discharge Permit.

Pursuant to 20.6.2.3109.E NMAC, NMED reserves the right to modify permit requirements in the event NMED determines that the requirements of 20.6.2 NMAC are being or may be violated, or the standards of 20.6.2.3103 NMAC are being, or may be, violated at a place of withdrawal of water for present or reasonably foreseeable future use due to a discharge regulated under this Discharge Permit. This may include a determination by NMED that operational practices approved under this Discharge Permit are not protective of ground and surface water quality, and that a modification is necessary to protect water quality or abate water pollution. Permit modification may include but is not limited to lining or relining impoundments, changing discharge locations, changing waste and leachate management practices, expanding monitoring requirements, and/or implementing abatement of water pollution.

Issuance of this Discharge Permit does not relieve AMI of its responsibility to comply with all conditions or requirements of the WQA, WQCC Regulations, and any other applicable federal, state and/or local laws and regulations such as zoning requirements and nuisance ordinances.

## **II. FINDINGS**

In issuing this Discharge Permit, NMED finds:

1. AMI is discharging effluent or leachate in the form of drainage through the tailing and waste manganese material so that such effluent or leachate may move directly or indirectly into ground water within the meaning of 20.6.2.3104 NMAC.
2. Drainage through the tailing and manganese waste material caused by run-on or precipitation may generate leachate from the site so that such leachate may move into ground water of the State of New Mexico which has an existing concentration of 10,000 mg/l or less of total dissolved solids within the meaning of 20.6.2.3101.A NMAC.
3. The discharge from the AMI Deming Jigging Site is not subject to any of the exemptions of 20.6.2.3105 NMAC.

4. The Water Quality Act requires that determination of a discharger's effect on ground water shall be measured at any place of withdrawal of water for present or reasonably foreseeable future use. NMSA 1978, 74-6-5(E)(3). NMED considers the discharge site covered by DP-459 to be a potential place of withdrawal of water for present or reasonably foreseeable future use. In the future, as part of the permit application process, AMI may present evidence to NMED supporting why some or all of the discharge site is not a place of withdrawal of water for present or reasonably foreseeable future use. If the evidence is presented to NMED, NMED will consider the evidence and any other relevant evidence, and will issue a written determination based thereon.

### **III. AUTHORIZATION TO DISCHARGE**

AMI is authorized to conduct maintenance and post-closure monitoring of the former AMI Deming Jigging Plant Site [20.6.2.3104].

### **IV. PERMIT CONDITIONS**

The following conditions shall be complied with by AMI and are enforceable by NMED. AMI is permitted to discharge water contaminants subject to the following conditions.

#### **OPERATIONS FOR CLOSURE**

1. AMI shall implement the following requirements in accordance with the WQCC Regulations 20.6.2.3106.C and 3107 NMAC to ensure compliance with 20 NMAC Chapter 6, Part 2. [20.6.2.3106.C NMAC][20.6.2.3107 MAC].
2. AMI shall maintain storm water erosion controls on the site. All grading and erosion control measures shall usher storm water away from the Mimbres River and the settling pond locations towards the northwest quadrant of the site. [20.6.2.3109 NMAC]

#### **POST- CLOSURE MONITORING, REPORTING AND OTHER REQUIREMENTS**

3. AMI shall perform post-closure monitoring for a minimum period of 12 years following completion of final closure construction activities, including cover placement, which was completed in July of 2005. AMI shall conduct the monitoring, reporting, and other requirements listed below. [20.6.2.3107 NMAC]
4. Upon notification from NMED that post-closure monitoring may cease, AMI shall plug and abandon monitor wells MW-1 and MW-2 according to the *NMED Monitoring Well Construction and Abandonment Guidelines, revision 1.1, March 2011*(attached) , or an alternate method approved by NMED. Within 30 days after well abandonment, AMI shall provide NMED with the date and documentation of abandonment procedures. [20.6.2.3107 NMAC]
5. AMI shall provide NMED at least 30 days notification of the anticipated destruction or

removal of any monitoring wells required under DP-1234. In the event of unintentional well destruction or damage requiring well abandonment, AMI shall notify NMED as soon as possible. The notification shall include a description of monitoring well abandonment procedures and propose a replacement well location for NMED approval. Monitoring well abandonment shall be performed in accordance with *NMED Monitoring Well Construction and Abandonment Guidelines, revision 1.1, March 2011*, or alternate method approved by NMED. [20.6.2.3107 NMAC]

#### **Sampling, Field Measurements and Periodic Inspections:**

6. Ground Water Monitoring Wells – AMI shall monitor well MW-1 once a year for Groups 1, 2 and 3 as follows:
  - a. Group 1 - Field parameters (analysis to be performed in the field): depth to water to the nearest hundredth (.01) of a foot, temperature, pH and electrical conductivity.
  - b. Group 2 - General chemistry parameters: calcium, sulfate, magnesium, chloride, carbonate and bicarbonate, fluoride, sodium, potassium and total dissolved solids.
  - c. Group 3 - Metal parameters: aluminum, arsenic, cadmium, chromium, cobalt, copper, iron, lead, manganese, nickel and zinc.

Analytical results and depth to ground water measurements shall be reported as required in Condition 10 below. [20.6.2.3107 NMAC]

7. Revegetation - To ensure that revegetation is protective of water quality, AMI shall, at a minimum, perform closure and post-closure monitoring of revegetation pursuant to schedules and monitoring requirements approved by MMD. Any proposed changes to the closure or post-closure revegetation monitoring plan to meet the New Mexico Mining Act (NMMA) requirements shall be submitted to NMED to ensure monitoring is protective of water quality. AMI shall provide a summary of revegetation monitoring results, including photographic documentation, in annual reports to NMED. At such time as MMD's revegetation monitoring requirements under the NMMA have been met, revegetation monitoring shall continue under the authority of NMED pursuant to this Discharge Permit. [20.6.2.3107 NMAC]
8. Erosion - AMI shall visually inspect for rills and gullies that may erode the cover of reclaimed areas and expose tailings to the environment. Inspections shall occur on reclaimed areas once a year in mid-September and in the event of a rain event totaling one inch or greater in any 24-hour period measured at the nearest rain gauge. AMI shall verbally report evidence of a major rill, gully, or sheet erosion on any closed impoundment to NMED within 24 hours of discovery. AMI shall provide a written report within 30 days of the discovery describing the nature and extent of erosion and steps taken to repair the erosion. NMED may require AMI to take additional actions to repair or otherwise mitigate the erosion. [20.6.2.3107 NMAC]

### **Methodology:**

9. Unless otherwise approved in writing by NMED, AMI shall conduct sampling and analysis in accordance with the most recent edition of the following documents:
  - a. American Public Health Association, *Standard Methods for the Examination of Water and Wastewater*.
  - b. U.S. Environmental Protection Agency, *Methods for Chemical Analysis of Water and Waste*.
  - c. U.S. Geological Survey, *Techniques for Water Resource Investigations of the U.S. Geological Survey*.
  - d. American Society for Testing and Materials, *Annual Book of ASTM Standards, Part 31, Water*.
  - e. U.S. Geological Survey, et al., *National Handbook of Recommended Methods for Water Data Acquisition*.
  - f. Surface water monitoring must also be conducted according to the procedures approved under Title 40 of Federal Regulations Part 136. [20.6.2.3107.B NMAC]

### **Reporting:**

10. AMI shall submit to NMED annual reports by the last day of October of each year. Reports shall include the following information. [20.6.2.3107 NMAC]
  - a. A description of any work completed during the previous year towards final closure of the AMI Site. This requirement includes, but is not limited to:
    - 1) Any maintenance and repair work conducted
    - 2) Monitoring results for erosion and revegetation
  - b. A summary of monitoring results from the monitoring well including analytical data and depth to ground water in a table format that also shows the results of the previous sampling events.
  - c. Annual reports will include laboratory QA/QC.

### **CONTINGENCY PLANS**

11. In the event that monitoring indicates ground water standards are exceeded during the term of this Discharge Permit, AMI shall collect a confirmatory sample from the monitoring well(s) within 15 days to confirm the initial sampling results. Within 30 days of confirmation of

ground water contamination, AMI shall submit an abatement plan proposal to NMED that includes a site investigation to define the source, nature and extent of contamination; a proposed abatement option; and a schedule for its implementation. The site investigation and abatement option shall be consistent with the requirements and provisions of 20.6.2.4101, 4103, 4106, 4107, and 4112 NMAC. The abatement plan shall be implemented within 30 days of NMED approval. [20.6.2.3107A(10) NMAC]

12. If NMED determines that the cover is not protective of ground water and/or surface water quality after closure of the site, AMI shall submit to NMED for approval a proposed work plan including a schedule to remedy such failure, which may include redesign of the final cover. Upon NMED approval, AMI shall implement the work plan according to the approved schedule. [20.6.2.3107A(10) NMAC]

13. If NMED or AMI identifies any other failure of this Discharge Permit or system not specifically noted above, NMED may require AMI to develop for NMED approval, contingency plans and schedules to address such a failure. [20.6.2.3107A(10) NMAC]

### **FINANCIAL ASSURANCE**

14. AMI shall maintain joint financial assurance with NMED and MMD in the amount of \$8,000 to cover the cost of a third party to implement post-closure monitoring and maintenance activities described in Conditions 1 through 13, including monitoring well abandonment. [20.6.2.3107A(11) NMAC]

#### **15. General Financial Assurance**

- a. AMI shall retain a financial assurance instrument throughout the term of the Discharge Permit until released by the Secretary. The financial assurance shall remain in place during lapses in Discharge Permit coverage, including late Discharge Permit renewal.
- b. NMED shall be named as the payee or beneficiary of the financial assurance instrument. AMI may select a joint financial assurance instrument to meet the requirements of NMED and the New Mexico Energy, Minerals and Natural Resources Department (EMNRD). If a joint instrument is selected, both NMED and EMNRD must be named as payees or beneficiaries and the joint instrument must meet the requirements of both agencies.
- c. The financial assurance instrument shall allow for adjustments due to inflation, new technologies, or NMED approved revisions to the closure plan based on continued investigations.
- d. The financial assurance shall be evaluated, compared, and if necessary, revised to comply with WQCC financial assurance regulations, if and when such regulations are promulgated and become effective and from time to time as the regulations allow.
- e. AMI shall provide at least 120 days written notice to the Secretary prior to cancellation or non-renewal of the financial assurance. AMI shall obtain an NMED approved

alternate financial assurance mechanism within 90 days of such notice. If AMI fails to obtain alternate financial assurance within 90 days, the current financial assurance shall become immediately payable to NMED.

- f. If AMI refuses or is unable to conduct or complete the closure requirements of this approval, if NMED determines the terms of the permit are not met, or if NMED determines that AMI defaults on the conditions under which the financial assurance was accepted, then the Secretary may proceed with forfeiture of all or part of the financial assurance. Prior to beginning a forfeiture proceeding, the Secretary shall provide a written notice to AMI and shall include the reasons for the forfeiture and the amount to be forfeited. The amount shall be based on the total cost of achieving compliance with the permit, including completion of the closure. All financial assurance forfeited shall become immediately payable to NMED.
- g. AMI may request a review by NMED of remaining closure measures once every twelve months. The request for closure review shall describe the closure measures completed and must contain a cost estimate for remaining closure measures.
- h. The financial assurance shall be released or modified when the NMED determines that closure measures covered by the financial assurance have been completed according to the requirements of the NMED approved discharge plan, including the closure plan and the requirements of the New Mexico Water Quality Act and the WQCC regulations.  
[20.6.2.3107A (11) NMAC]

## **GENERAL TERMS AND CONDITIONS**

### **Record Keeping**

- 16. AMI shall maintain at its facility a written record of all data and information on monitoring of ground water, surface water, seepage, meteorological conditions pursuant to this Discharge Permit including the following:
  - a. The date, exact time, and exact location of each sample collection or field measurement;
  - b. The name and job title of the person who performed each sample collection or field measurement;
  - c. The date of the analysis of each sample;
  - d. The name and address of the laboratory and the name and job title of the person that performed the analysis of each sample;
  - e. The analytical technique or method used to analyze each sample or take each field measurement;

- f. The results of each analysis or field measurement, including the raw data; and
  - g. A description of the quality assurance and quality control procedures used. [20.6.2.3107A NMAC]
17. Such data and information described in Condition 16 shall also be maintained on all split and duplicate samples, spike and blank samples, and repeat samples. [20.6.2.3107A NMAC]
18. AMI shall maintain a written record of any spills, seeps, or leaks of leachate not authorized by this Discharge Permit. [20.6.2.3107A NMAC]
19. AMI shall maintain a written record of the operation, maintenance and repair of all facilities/equipment used to monitor water quality or to collect other data required by this Discharge Permit. This record shall include repair, replacement or calibration of any monitoring equipment. [20.6.2.3107A NMAC]
20. Notwithstanding any company record retention policy to the contrary, until such time as NMED determines that all closure measures have been completed in accordance with the requirements of this Discharge Permit, AMI shall retain copies of all data, records, reports, and other documents generated pursuant to this Discharge Permit. Such record retention period may be increased by NMED at any time upon written notice to AMI. [20.6.2.3107A NMAC]
21. All such data, records, reports, and other documents generated pursuant to this Discharge Permit, shall be provided to NMED upon request. [20.6.2.3107A NMAC]

### **Inspection and Entry**

22. AMI shall allow the Secretary or an authorized representative of NMED, upon the presentation of credentials to:
- a. Enter at reasonable times upon AMI's premises or at any other location where records are kept under the conditions of this Discharge Permit, or under any federal or WQCC regulation.
  - b. To inspect and copy at reasonable times, any records required to be kept under the conditions of this Discharge Permit, or under any federal or WQCC regulation.
  - c. To inspect, at reasonable times, any facility, equipment (including monitoring and control equipment or treatment works), practices or operations regulated or required under this Discharge Permit, or under any federal or WQCC regulation.
  - d. Sample or monitor at reasonable times any effluent, water contaminant, or receiving water at any location before or after discharge for the purpose of assuring compliance with this Discharge Permit or as otherwise authorized by the New Mexico Water Quality Act. [20.6.2.3107D NMAC] [74-6-9.B & E WQA]



23. Nothing in this Discharge Permit shall be construed as limiting in any way the inspection and entry authority of NMED under the WQA, the WQCC Regulations, or any other applicable law or regulation. [20.6.2.3107 NMAC]

### **Duty to Provide Information**

24. Within a reasonable time after a request from NMED, which time may be specified by NMED, AMI shall provide NMED with any relevant information to determine whether cause exists for modifying, terminating, or renewing this Discharge Permit, or to determine whether AMI is in compliance with this Discharge Permit. [20.6.2.3107D NMAC][74-6-9.B & E WQA]
25. Nothing in this Discharge Permit shall be construed as limiting in any way the information gathering authority of NMED under the WQA, the WQCC Regulations, or any other applicable law or regulation. [20.6.2.3107D NMAC][74-6-9.B & E WQA]

### **Spills, Leaks and Other Unauthorized Discharges**

26. This Discharge Permit authorizes only those discharges specified herein. Any discharge not authorized by this Discharge Permit is a violation of the WQCC Regulations at 20.6.2.3104 NMAC. AMI must report any such discharge to the NMED, and it must take corrective action to contain and remove or mitigate the damage caused by the discharge in accordance with Section 2.6.2.1203 NMAC and, if applicable, Condition 13. [20.6.2.1203 NMAC]

### **Modifications and Amendments**

27. Pursuant to Section 20.6.2.3107.C NMAC, AMI shall notify NMED and obtain NMED approval, as a modification to this Discharge Permit pursuant to Section 20.6.2.3109.E, F, or G NMAC, prior to any changes to its mining operations or processes or closure activities that would result in any significant change in the discharge of water contaminants. [20.6.2.3107C NMAC]

### **Enforcement**

28. Any violation of the requirements and conditions of this Discharge Permit, including any failure or refusal to allow NMED to enter and inspect records or facilities, or any refusal or failure to provide NMED with records or information, may subject AMI to an enforcement action. Pursuant to WQA § 74-6-10.A and B, such action may include a compliance order requiring compliance immediately or in a specified time, assessing a civil penalty, suspending or terminating the Discharge Permit, or any combination of the foregoing; or an action in district court seeking injunctive relief, civil penalties, or both. Pursuant to the WQA §§ 74-6-10.C and 74-6-10.1, civil penalties of up to \$15,000 per day of noncompliance may be assessed for each violation of the WQA § 74-6-5, the WQCC regulations, or this Discharge Permit, and civil penalties of up to \$10,000 per day of non-compliance may be assessed for each violation of any other provision of the WQA, or any regulation standard, or

order adopted pursuant to such other provision. For certain violations specified in the WQA § 74-6-10.2, criminal penalties may also apply. In any action to enforce this Discharge Permit, AMI waives any objection to the admissibility as evidence of any data generated pursuant to this Discharge Permit. [74-6 WQA]

### **Compliance with Other Law**

29. Nothing in this Discharge Permit shall be construed in any way as relieving AMI of its obligation to comply with all applicable Federal, State, and local laws, regulations, permits, or orders. [20.6.2 NMAC]. AMI does not waive any rights under such applicable Federal, State and local laws, regulations, permits, or orders except as expressly provided in this Discharge Permit. [20.6.2 NMAC] [74-5-5.K WQA]

### **Liability**

30. The approval of this Discharge Permit does not relieve AMI of liability should operation result in actual pollution of surface or ground water which may be actionable under other laws and/or regulations. [20.6.2.3109 NMAC]

### **Right to Appeal**

31. AMI may file a petition for a hearing before the WQCC on this Discharge Permit. Such petition must be made in writing to the WQCC within thirty (30) days after AMI receives this Discharge Permit. Unless a timely petition for a hearing is made, the decision of NMED shall be final. [74-6-5.N WQA]

### **Transfer**

32. Pursuant to 20.6.2.3111 NMAC, prior to any transfer of ownership, control, or possession of the permitted facility or any portion thereof, AMI shall notify the proposed transferee in writing of the existence of this Discharge Permit and include a copy of this Permit with the notice. AMI shall deliver or send by certified mail to NMED a copy of the notification and proof that such notification has been received by the proposed transferee. [20.6.2.3111 NMAC]

## Term

33. The effective date of this Discharge Permit is the date it is issued and signed by the Chief of the Ground Water Quality Bureau. The term of this Discharge Permit is five (5) years, and the Permit will automatically expire five (5) years from the date it is issued. To renew this Discharge Permit, AMI must submit an application for renewal at least 120 days before that date. [74-6-5.H and 20.6.2.3109.H NMAC]

ISSUED this \_\_\_\_\_ day of \_\_\_\_\_, 2013

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Jerry Schoeppner, Chief  
Ground Water Quality Bureau  
New Mexico Environment Department

Under authority delegated by the Secretary of the New Mexico Environment Department.

ISSUED:      Approval Date  
EXPIRES:     Expiration Date